

# City of Los Angeles

## “LED Roadway Luminaire Specifications”

### DOE Municipal Solid-State Street Lighting Consortium SW Regional Workshop

September 30, 2010



## Original BASIS for the Specifications

- US DOE – Energy Star (under Energy Efficiency & Renewable Energy/Solid-State Lighting) in September 2007.
- General Illumination.
- Products to be connected to the electric power grid.
- It does not apply to traffic lights and exit signs.
- It is NOT intended for retrofit into existing fixtures.
- City/BSL Testing and Evaluation on latest LED Technology

# Specification Categories

## 1. LUMINAIRE REQUIREMENTS

- Correlated Color Temperature (CCT) – 4300 +/- 300 K
- Color Rendering Index (CRI) – 65
- Power Consumption – Various size-85W LED for 100W HPS (138 W)
- Warranty – Full 6 Yrs., Parts 8 Yrs.
- Weight and Dimensions - Depending on the size
- Operating Temperatures - -20° C to 50° C
- Cooling System – No fans, pumps or liquids
- Lighting Controls – For wireless control (dimming) and monitoring
- Luminaire Classification – Use TM-15-07 or Backlight, Uplight and Glare System (BUG)
- Mounting Arm Connection
- PE Receptacle
- House Shield

## 2. LED Module/Array Requirements

- Lumen Depreciation of LED Light Sources and Ingress Protection – 70% of initial lumens for Min. of 50,000 hours. Assembly Min. IP66
- Light Distribution – Per IES Type II or III

## 3. Power Supply/Driver Requirements

- Power Factor – 0.90
- Max. amperage at LED – Max. 700 mA for LEDs rated at 1000 mA
- Transient Protection – Two standards and test required; Rating 10 KV
- Operating Temperature – For Power Supply -20° C to 50° C
- Interference – FCC 47 CFR Part 15/18
- Noise and Ingress Protection – Class A per ANSI C63.4 and IP54

#### 4. Roadway Application Requirement

- Minimum Lighting Output – Varies depending on the unit size; use company spec's and independent test lab results
- Minimum Luminaire Efficacy – lm/W; Varies depending on the unit size; use company spec's, independent test lab results and our tests

#### 5. Measurement/Performance/Safety Standards

- ANSI C78.377.2008 – Chromaticity of SSL products
- IES LM-79-08 – Method for the electrical and photometric measurements of SSL products
- IES LM-80-08 – (Recommended) Measuring lumen maintenance of **LED lighting sources (complete fixture?)**; 6000 hrs. required, 10,000 preferred for predictive modeling
- UL Standards – 8750 LED sources for use in lighting products; 1598 Luminaires; 1012 Power units other than Class 2; 1310 Power units Class 2, 2108 Low voltage lighting systems; all components shall be UL approved

## 6. Pre-qualifications for Bidding

- Description of units with pre-approval status - Company name, model, City of LA modifications and specific catalog number
- Three free sample units before awarding contract – for final testing
- Purchased units are tested for QC

## 7. Delivery & Ordering

- Orders must be deliver within 8 weeks of placing orders
- Typically, contracts are for purchases up to 20,000

## 8. Penalties

- Apply to orders not delivered by Section 7. \$100 per day per unit. If bidder does not deliver, City will cancel the contract and go to next qualified bidder.



# THANK YOU

## CITY OF LOS ANGELES

### Bureau of Street Lighting

Orlando Nova, Project Manager

<http://bsl.lacity.org/>

